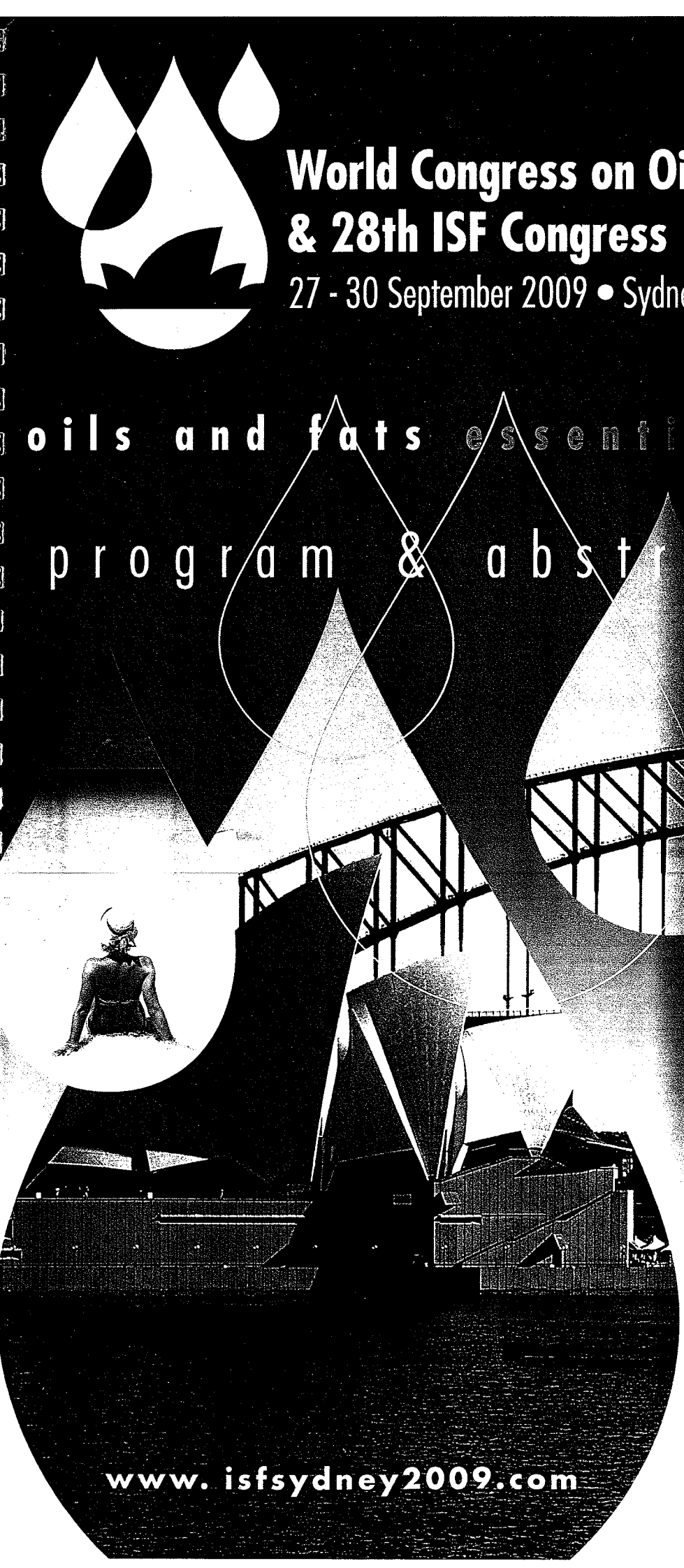
World Congress on Oils and Fats & 28th ISF Congress

27 - 30 September 2009 • Sydney Australia

oils and fats essential

program & abstract book



www. isfsydney2009.com

Hosted by

AOF

ISF

AUSTRALIAN OLIVE ASSOCIATION LTD.

PO117

MILK YIELD OF HOLSTEIN-FRIESIAN AND JERSEY X HOLSTEIN-FRIESIAN COWS SUPPLEMENTED WITH CANOLA MEAL AND CRACKED LUPINS

Malau-Aduli AEO[1], Chiu YF[1], Jones D[2], Nichols PA[3]

[1]*University of Tasmania, Hobart, Australia*
[2]*Willowdene Dairy Farm, Hamilton, Tasmania, Australia*
[3]*CSIRO Marine and Atmospheric Research, Hobart, Tasmania, Australia*

Milk yield is a key selection trait in dairy cows. During the course of lactation, milk yield follows a typical curvilinear pattern characterized by an initial increase immediately after calving, a rise to peak before an eventual decline. Cows in mid-lactation are typically in the decline phase and would require supplementation to ensure persistency in milk yield, particularly during summer when pasture availability is limited. This study evaluated the milk yield responses of purebred and crossbred dairy cows to two levels (1 or 2 kg/cow/day) of canola meal or cracked lupins supplementation in a pasture-based production system. Fifty Holstein-Friesian (HF) and Jersey x Holstein-Friesian (JHF) dairy cows (10 unsupplemented control and 40 supplemented) were randomly assigned to treatment groups after balancing for initial milk yield, BCS and days in milk (mean initial milk yield, body weight and body condition scores were 122.5 ± 12.1 litres/d, 352.6 ± 31 kg, and 2.5 respectively). A 2 x 2 x 2 balanced factorial experimental design representing 2 breeds, 2 supplements and 2 feeding levels was utilized. All cows had *ad libitum* access to the basal diet of barley and ryegrass while supplemented cows had three weeks of adjustment before the 12 weeks of feeding trial commenced. All cows were milked twice daily and milk yield individually recorded automatically at milking. Data were tested for significance by fitting the fixed effects of breed, supplement, feeding level and their first order interactions using mixed model procedures in SAS with cow and days in milk as random effects. Overall differences between treatment means were declared significant at $P<0.05$. Milk yield at all times was significantly higher in supplemented than unsupplemented cows with the rate of decline in milk yield faster in unsupplemented cows. For ten consecutive weeks, supplementing with lupins elicited a better milk yield response than with canola but breed differences between purebred and crossbred cows were not significant ($P>0.26$). Supplementing with lupins at 1kg/cow/day gave the best milk yield response and would be a far cheaper option for supplementing mid-lactation cows than canola.